PND16

NATALIZUMAB FOR RAPIDLY EVOLVING SEVERE RELAPSING-REMITTING MULTIPLE SCLEROSIS (RESRRMS) PATIENTS: 5-YEAR BUDGET IMPACT ANALYSIS (BIA) FROM THE BRAZILIAN PUBLIC PAYER PERSPECTIVE

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OBJECTIVES: Multiple sclerosis (MS) is a neurodegenerative disease associated with long-term disability and significant economic impact. With the addition of new agents for the treatment of MS (e.g. natalizumab), there is a need to evaluate the relative value of newer therapies in terms of cost, given health care resource constraints in Brazil. This analysis considered just the indication for rapidly evolving severe relapsing-remitting multiple sclerosis (RESRRMS) patients (≥2 disabling relapses per year, and ≥1 gadolinium-enhancing lesions on brain magnetic resonance imaging or a significant increase in T2 lesion load). Brazilian reimbursement guidelines recommend natalizumab only as 3rd line treatment for MS. A budget impact analysis (BIA) has been created to analyze the impact of introducing natalizumab in RESRRMS treatment in Brazilian Public Healthcare System (SUS). **METHODS:** BIA was based on a Markov model with monthly cycles and 5-year time horizon with MS epidemiological data obtained from Brazilian public database (DATASUS). The model compared current MS treatment options reimbursed by the Brazilian government – interferons-betas, glatiramer acetate and natalizumab (3rd line) with an alternative scenario with 1st line natalizumab. **RESULTS:** The number of Brazilian patients eligible for REHARRMS treatment was estimated to be 1,574, 532 and 110 patients for 1st, 2nd and 3rd line treatment, respectively, in the first year. Compared to the current scenario, the inclusion of natalizumab in the reimbursement protocol for 1st line shows potential savings of USD 729.1K, 524.6K, 360.3K, 200.6K and 83.6K for 5 consecutive years. **CONCLUSIONS:** The inclusion of natalizumab as RESRRMS treatment option is estimated to yield savings of USD 1.9 M in five years for MS treatment in SUS.

PND17

BUDGET IMPACT OF SWITCHING PRAMIPEXOLE IMMEDIATE RELEASE TO PRAMIPEXOLE EXTENDED RELEASE IN TREATMENT OF PARKINSON'S DISEASE; PERSPECTIVE OF THE SOCIAL SECURITY INSTITUTION

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OBJECTIVES: Budget impact analysis of switching Pramipexole Immediate Release (IR) to Pramipexole Extended Release (ER) in treatment of Parkinson's Disease in the Turkish health care setting from a Social Security Institution's (SSI) perspective. **METHODS:** Based upon a literature review demonstrating that, Pramipexole ER is similar to Pramipexole IR in efficacy and safety in treatment of Parkinson's Disease (non-inferiority), budget impact analyses were performed using Microsoft Excel (2007). **RESULTS:** The switch from IR to ER was analyzed for the following formulations 0.75MG /1.50MG /3.00MG /4.50MG per day and patient. The daily pill burden per patient was reduced from 3 to 1 and 6 to 1 for 0,75MG /1,5MG /3,0MG and 4,5MG respectively. The total annual treatment cost per patient was reduced by 2.91%, 6.25%, 1.74% and 3.30% for 0.75MG, 1.50MG, 3.00MG and 4.50MG respectively. **CONCLUSIONS:** The findings of this study indicate that, switching Parkinson's Patients from Pramipexole IR to ER will not result in an additional budget impact for the Turkish health care system from a SSI perspective. However, further research needs to be conducted in order to explore the potential implications of compliance benefits and if they can be translated into long-term savings. No local effectiveness data was available at the time this analysis was performed. Potential benefits in patients' adherence were not considered.

PND18

HEALTH CARE RESOURCE UTILIZATION AND COST AMONG NATALIZUMAB INITIATORS WITH MULTIPLE SCLEROSIS IN THE UNITED STATES

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OBJECTIVES: To evaluate MS-related health care resource utilization and costs prior to and after initiating natalizumab in the US. **METHODS:** A retrospective administrative claims analysis was conducted using the Truven Health MarketScan Commercial and Medicare supplemental databases to identify adults diagnosed with MS (ICD-9-CM 340) who initiated natalizumab between January 1, 2007 and December 31, 2010 (first claim is the index date). Patients had ≥24 months of continuous enrollment (12 months before [pre-period] and 12 months after [post-period] the index date) and remained on natalizumab for the 12 month post-period. Patients with and without other disease modifying treatment (DMT) during the pre-period were examined. Patient characteristics, MS-related inpatient stays and corticosteroid use were described in the pre- and post-periods. **RESULTS:** The 1458 patients in this study had a mean age of 45.2 years (standard deviation 10.5) and 74% were female. The majority (70.1%) used a DMT during the pre-period. After initiating natalizumab, there was a significant reduction in percentage of patients with MS-related inpatient stays (7.6% vs. 2.4%, p<0.001), MS-related inpatient costs (median $12,078 vs. $9,784, p<0.001) and length of stay (7.12 days vs. 6.26 days, p=0.005). Reduction in percentage of patients with MS-related inpatient stays and costs were numerically higher for patients without DMTs in the pre-period (-6.2% and -$1,496 respectively) compared with those with a DMT in the pre-period (-4.8% and -$1,262, respectively). Compared to the pre-period, there were significant reductions in IV and oral corticosteroid use for natalizumab initiators (-60.1% and -52.9%, respectively, p<0.001 for both). These reductions correspond to a mean corticosteroid cost per patient reduction of $101 across all natalizumab users (p<0.001). **CONCLUSIONS:** The initiation of natalizumab was associated with significant decreases in MS-related inpatient stays and corticosteroid use with corresponding decreases in length of stay and costs among natalizumab users with and without DMTs in the prior year.

PND19

HEALTH CARE RESOURCE USE AND DIRECT COSTS ASSOCIATED WITH FRAGILE X SYNDROME (FXS) IN THE UNITED STATES

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OBJECTIVES: FXS is the most common inherited form of intellectual disability and is associated with comorbidities that impair functioning and adaptive behavior. This study is aimed at evaluating the incremental direct health care costs and resource utilization associated with FXS using administrative health care claims data. **METHODS:** Using the Optum Health Reporting and Insights Employer database covering 1999-2012, subjects <65 years old with ≥1 FXS diagnosis (ICD-9-CM: 759.83) and ≥6 months of continuous enrollment prior to the first observed FXS diagnosis were matched with up to 5 non-FXS controls using high-dimensional propensity score matching. Individuals were followed until the end of continuous enrollment in the health plan. All-cause and FXS-related costs and resource utilization stratified by hospitalizations, emergency room (ER), outpatient, and home care visits were examined. **RESULTS:** 590 FXS individuals (mean[median] age: 25.7[27]; female: 54.1%; employee: 32%) and 2,950 non-FXS controls (mean[median] age: 25.7[27]; female: 52.1%; employee: 32%) were identified. Significant differences were observed between FXS and non-FXS in the all-cause per-patient per-year (PPPY) incidence of hospitalizations (0.414 vs. 0.237; incidence rate ratio [IRR] [95% CI]: 1.75[1.51-2.02]), outpatient visits (14.345 vs. 9.078; IRR: 1.58[1.54-1.62]), and home care visits (1.817 vs. 0.348; IRR: 5.22[4.80-5.69]). Similar results were found for FXS-related hospitalizations (0.206 vs. 0.092; IRR: 2.23[1.80-2.77]), outpatient visits (4.929 vs. 1.976; IRR: 2.49[2.39-2.61]), and home care visits (0.341 vs. 0.029; IRR: 11.70[9.09-15.06]). FXS subjects were also associated with significantly higher PPPY all-cause health care costs (total[SD]: $14,674[47,163] vs. $5,110[18,378]; hospitalization: $4,507[18,141] vs. $1,328[10,203]; outpatient: $4,730[12,538] vs. $2,394[10,515]; drugs: $2,331[6,226] vs. $844[2,244]; p<.01 for all) and FXS-related costs (total: $5,890[16,541] vs. $1,744[10,149]; hospitalization: $2,730[13,628] vs. $788[9,506]; outpatient: $1,799[4,243] vs. $555[1,510]; drugs: $1,008[2,999] vs. $197[1,030]; p<.01 for all), compared to non-FXS controls. **CONCLUSIONS:** The economic burden associated with FXS is significant and underscores the need to improve outcomes of individuals with FXS.

PND20

DIRECT AND INDIRECT COSTS OF MS IN IRELAND

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OBJECTIVES: Multiple Sclerosis (MS) has significant financial consequences for health care systems, individual patients and households, and the society in general. This study examines the distribution of MS costs and resource utilisation across cost categories and from various perspectives, as MS disability increases. **METHODS:** A total of 214 patients with MS were recruited from a specialised MS outpatient clinic in Dublin, Ireland, to participate in an interview-based study on MS-related resource consumption and costs. Mean annual direct medical, direct non-medical and indirect costs per patient were calculated, stratified by MS disability: mild (n=114), moderate (n=72) and severe (n=27). **RESULTS:** Participants were 66% female; mean (sd) age 47.6(12.75) years; mean (sd) EDSS score 3.6(2.6); 53% relapsing-remitting MS. Mean annual direct costs increased as MS disability increased from ~€10,000 in mild disease, more than five fold to ~€56,000 in severe MS. Direct costs exceed indirect costs in mild and severe MS, driven by costly disease-modifying therapies and professional home-help respectively. In contrast, indirect costs dominate in moderate MS (~€32,000 indirect vs. ~€13,000 direct) due primarily to early retirement. Disease-modifying therapies account for 76% of total direct costs in mild MS. A total of 74%-96% of all direct costs are borne by the health care payer in Ireland. Remaining costs are incurred by patients, their families or other non-health care organisations predominantly relating to non-medical resources such as living-aids, home-modifications and home-help. **CONCLUSIONS:** MS is associated with high levels of health care resource consumption and costs, which increase with disability. The majority of direct costs in our study are borne by the health care payer. However out-of-pocket spending at the individual patient level and the contribution of other organisations can be significant, particularly in severe disease. There is potential to significantly reduce the economic burden of MS through interventions which prevent progression to severe disability, support independent living at home and maintain labour force participation.

PND21

THE ANNUAL TREATMENT AND REHABILLITATION COSTS OF PATIENTS WITH PARAPLEGIA IN THE PRIVATE HEALTH CARE SETTING IN GREECE

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OBJECTIVES: To examine the annual resource use and related treatment costs for patients with paraplegia in Greece in 2011. **METHODS:** This was a prospective study, which recorded data from all inpatient and outpatient visits to Olympion Hospital, a private rehabilitation center in Patras, during 2011. Patient files, which recorded the patients' demographic, clinical and economic/ cost data, were created. Direct costs included medical and pharmaceutical costs, lab tests and direct non-medical costs, which were retrieved through the Center's IT system. Indirect cost data consisted of the loss of individual and family income and were elicited via face-to-face or telephone interviews with the patients or their relatives. Each patient participating in the study signed an informed consent. **RESULTS:** A total of 300 patients were treated in the rehabilitation center in 2011, of which 36 (12%) suffered from paraplegia. Of these, 20 were treated in the inpatient setting and 16 in the outpatient setting. The total average annual cost of treating patients with paraplegia was estimated at €101,228; the average costs of the inpatient and outpatient settings were €86,699 (€74,296 direct cost + €12,403 indirect cost) and €14,529 (€9,445 direct cost and €5,084 indirect cost) respectively. The mean number of hospitalization days for inpatients